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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/555,777	11/01/2000	Guenter Knoll	10191/1438	9377

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EXAMINER

JENKINS, DANIEL J

ART UNIT	PAPER NUMBER
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1742

12

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/555,777

Applicant(s)

KNOLL ET AL.

Examiner

Daniel J. Jenkins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-47 and 49-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 47 and 49-54 is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. The Examiner has carefully considered Applicant's Response of 10/16/02 and finds that the amendment to claim 47 overcomes the prior art. However, the Examiner disagrees with Applicant's position that the nitrogen partial pressure is not disclosed by Klemm. It is not necessary for Klemm to disclose the upper and lower limits, but to merely provide nitrogen partial pressure within the range in order to anticipate the claim. Klemm does provide for partial pressure of nitrogen that is within the range, thus anticipating the claim.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 28-30, 32, 33, 36 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Klemm et al.

Klemm et al. disclose a method of forming a silicon nitride composite comprising :

providing a powder mixture;

forming the powder mixture into a shape; and

sintering said powder mixture to form a silicon nitride composite.

Klemm et al. further disclose wherein the sintering is performed in an atmosphere containing nitrogen.

Klemm et al. further disclose wherein the powder mixture contains Si_3N_4 and Me_5Si_3 (see discussion at col. 2, lines 25-34 for a disclosure that the powder mixture can be formed of the desired components as well as the precursor components).

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Klem et al. further disclose wherein Me is selected from a group of metals comprising W (see Example 9).

Klemm et al. further disclose wherein the composite comprises Si_3N_4 and Me_5Si_3 wherein Me is selected from a group comprising W (see Example 9) or Mo (see Example 7).

Klemm et al. further disclose wherein the powder mixture contains sintering additives (col. 2, lines 12-13).

Klemm et al. further disclose wherein the powder mixture contains Y_2O_3 .

Klemm et al. further disclose wherein forming into a shape is done by a step selected from a group comprising cold isostatic pressing (see Example 2).

4. Claims 31, 34, 35, 38-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klemm et al.

Klemm et al. disclose the invention substantially as claimed (see paragraph 3 above).

However, Klemm et al. does not disclose wherein the powder mixture further comprises pressing agents and binding agents.

It is common knowledge in the prior art to include pressing and binding agents into a powder mixture prior to isostatically pressing in the same field of endeavor for the purpose of forming a green part of high strength to enhance handling strength prior to sintering.

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The determination of operation parameters including processing conditions would be determined by one of ordinary skill in the art through routine experimentation in order to form a composite of high density.


Additionally, the overlap or close approximation of composition amounts is sufficient to establish a prima facie case of obvious lacking a showing of unexpected results flowing from such selection.

5. Claims 47 and 49-54 are allowable since the prior art does not teach or suggest the inclusion of the metal silicide.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Jenkins whose telephone number is 703-306-4157. The examiner can normally be reached on M-TH 6:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 703-308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9593 for regular communications and 703-305-7719 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Daniel J. Jenkins
Primary Examiner
Art Unit 1742

dj
December 30, 2002